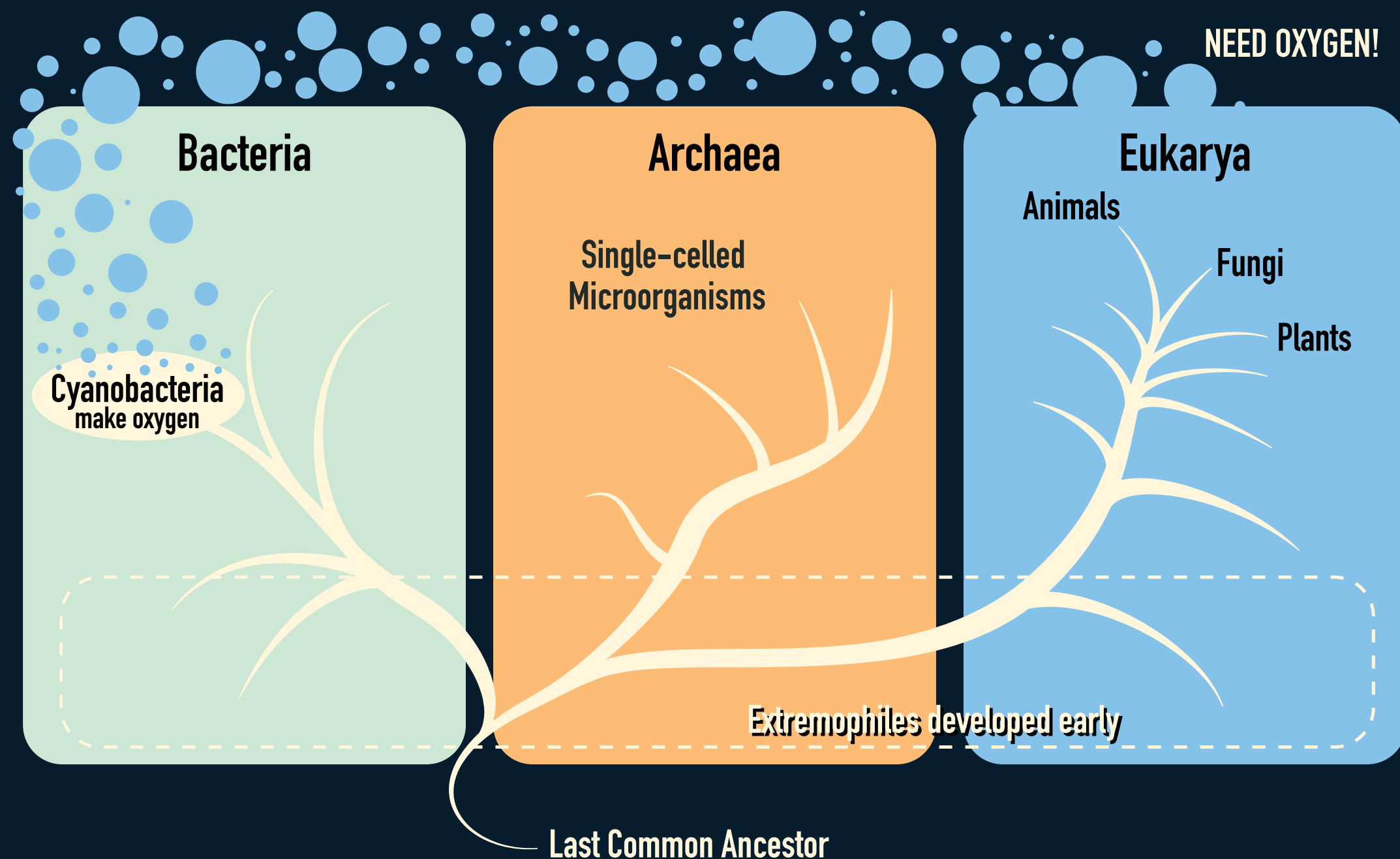
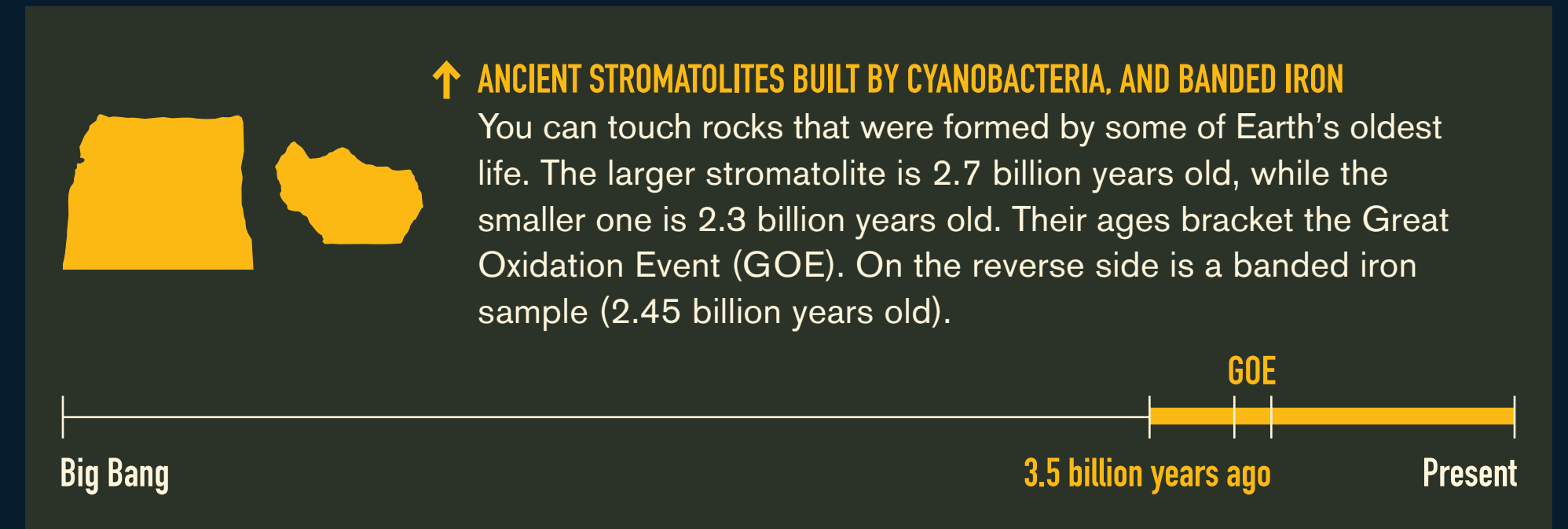


STATION 08 > Life Transformed Earth



JUST ADD OXYGEN: A phylogenetic tree of life shows that all major groups of organisms are linked to one common ancestor billions of years ago. This ancestor was probably a small single-celled organism that lived in an extreme environment. The rise of atmospheric oxygen led to the development of plants and animals (including humans). Without oxygen, life on Earth may have looked completely different.

Once life was established on the early Earth, it began to change the environment. Cyanobacteria released oxygen as a waste product of photosynthesis. The oxygen first reacted with dissolved iron in the oceans to create banded iron formations. At about 2.4 billion years ago, oxygen began to increase dramatically in the atmosphere (the Great Oxidation Event). This made multicellular life possible and created our protective ozone layer.



RECORDS OF ANCIENT LIFE: On the early Earth, microbial mats were everywhere! Some produced stromatolites, which are stubby pillars that later became fossilized. Stromatolites are not fossils of organisms but instead are the fossilized remains of layered sedimentary grains captured by the bacterial colony. This image shows modern stromatolites located in Shark Bay, Western Australia.